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REMARKS/ARGUMENTS

Claims 13-44 are pending in this application. By this Amendment, Applicants AMEND claims 13 and 19 and ADD claims 29-44.

Applicants' counsel greatly appreciates the courtesies extended by the Examiner in the personal interview of October 21, 2004. In the personal interview, Applicants' counsel discussed the differences between Slattery and possible claim amendments and new claims. Applicants also referred the Examiner to page 8 of the originally filed application for clear specification support for the features recited in Applicants' claims 26 and 28. No agreement was reached during the personal interview.

The Examiner rejected claims 26 and 28 under 35 U.S.C. § 112, first paragraph as allegedly containing subject matter that was not described in the specification in such a way as to reasonably convey to one skill in the relevant art that the inventors, at the time of the application was filed, had possession of the claimed invention. The Examiner alleged, in paragraph no. 4 on page 2 of the outstanding Office Action, "The references in the Specification to nickel-based metal layer having the claimed thickness of Claims 26 and 28 appear to specify the thickness prior to press- and diffusion-bonding and not to the thickness after said bonding."

As discussed in the personal interview of October 21, 2004, Applicants respectfully submit that the first full paragraph on page 8 of the originally filed application supports the features recited in Applicants' claims 26 and 28. This paragraph refers to "the basic construction of a lid material" in Fig. 1 where "the Ni-based metal layers 3, 4 each have thickness of about 5 to 50 μm ." This paragraph is clearly referring to the finished product produced by the method whose description begins in the paragraph that follows the first full paragraph on page 8, which paragraph begins "Next, the lid material production method according to the present invention will be described....".

Further, the "Brief Description of the Drawings" section on page 7 of the originally filed application states that "Fig. 1 is a partial sectional view illustrating the basic

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construction of a lid material to be produced through a lid material production method according to an embodiment of the present invention." Thus, the originally filed Specification clearly indicates that the lid material after press- and diffusion-bonding is illustrated in Fig. 1.

Thus, Applicants respectfully submit that the feature of "the nickel-based metal layer has an average thickness of about 5 μm to about 50 μm " recited in Applicants' claims 26 and 28 is supported by the originally filed Specification.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 26 and 28 under 35 U.S.C. § 112, first paragraph.

The Examiner rejected claims 13-28 under 35 U.S.C. §103(a) as being unpatentable over Slattery (U.S. 4,737,418). Applicants respectfully traverse the rejection of claims 13-28.

Claim 13 has been amended to recite:

"A lid material for a lid which is to be fuse-bonded to a peripheral upper surface of a case having an open top and a housing space for an electronic component, the lid material comprising:
a core layer;
a nickel-based metal layer composed of a **nickel-based metal foil** mainly comprising nickel, an entire thickness of the nickel-based metal layer being press- and diffusion-bonded onto the core layer with **no portion of the nickel-based metal layer being electroplated**; and
a brazing material layer press-bonded onto the nickel-based metal layer,
wherein the **nickel-based metal layer has a maximum-to-minimum thickness ratio T1/T2 of 1.4 to 15.**" (emphasis added)

Claim 29 recites:

"A lid material for a lid which is to be fuse-bonded to a peripheral upper surface of a case having an open top and a housing space for an electronic component, the lid material comprising:
a core layer;
a nickel-based metal layer composed of a nickel-based metal mainly comprising nickel, an entire thickness of the nickel-based metal layer being press- and diffusion-bonded onto the core layer; and

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a brazing material layer press-bonded onto the nickel-based metal layer such that the total thickness of the core layer, the nickel-based metal layer, and the brazing material layer is reduced by a ratio of between about 30% to about 60%,

wherein the nickel-based metal layer has a maximum-to-minimum thickness ratio $T1/T2$ of 1.4 to 15." (emphasis added)

Applicants' claim 13 recites the features of "a nickel-based metal foil," "no portion of the nickel-based metal layer being electroplated," and "the nickel-based metal layer has a maximum-to-minimum thickness ratio $T1/T2$ of 1.4 to 15."

Applicants' claim 19 recites features that are similar to features recited in Applicants' claim 13, including the above emphasized features.

Applicants' claim 29 recites the feature of "a brazing material layer press-bonded onto the nickel-based metal layer such that the total thickness of the core layer, the nickel-based metal layer, and the brazing material layer is reduced by a ratio of between about 30% to about 60%."

Applicants' claim 37 recites features that are similar to features recited in Applicants' claim 29, including the above emphasized features.

With the improved features of claims 13, 19, 29, and 37, Applicants have been able to provide a lid material and a lid using the lid material having a higher hermeticity than previous lid materials and lids using the previous lid materials (see, for example, the first full paragraph on page 3 of the originally filed Specification).

Applicants have amended claims 13 and 19 to recite the features of "a nickel-based metal foil" and "no portion of the nickel-based metal layer being electroplated."

Support for the amendments to claims 13 and 19 is found, for example, in the paragraph bridging pages 18 and 19 of the originally filed Specification, where it states, "Since the formation of the Ni-based metal layers 3, 4 of the lid material is achieved by press- and diffusion-bonding Ni-based metal foils onto the core layer 2, the Ni-based metal layers are free from micro-holes and micro-cracks which may otherwise occur when the Ni-based metal layers are formed by plating." That is, the originally filed

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Specification teaches that the "nickel-based metal layer" of the present invention should not be electroplated in order to avoid the formation micro-holes and micro-cracks caused electroplating. In all instances of the description of the claimed invention in the originally filed application, the nickel-based metal layer is formed of foil that is press- and diffusion-bonding bonded and clearly cannot be formed by plating.

Slattery teaches that reference number 26 is formed of an electroplated layer of nickel, and is clearly **NOT** formed of a nickel-based metal foil, no portion of which has been electroplated, as recited in Applicants' claims 13 and 19. Thus, Applicants respectfully submit that it is improper for the Examiner to rely upon reference number 26 to allegedly teach the feature of nickel-based metal layer composed of "a nickel-based metal foil" in which "no portion of the nickel-based metal layer being electroplated" as recited in Applicants' claims 13 and 19. As noted above, layer 26 of Slattery is clearly electroplated, which is in direct contrast and exactly opposite to Applicants' claimed invention.

At most, the Examiner may only rely upon layer 12 to allegedly teach Applicants' claimed nickel-based metal layer. However, the single layer 12 clearly does not teach or suggest Applicants' claimed ratio $T1/T2$, where $T1$ is the maximum thickness portion and $T2$ is the minimum thickness portion of the same nickel-based metal layer.

Slattery teaches in the paragraph bridging columns 3 and 4 that nickel foil layers 12 are press-bonded and have "a final thickness of between 200 and 350 microinches." In the last paragraph in column 3 in the "Example" section, Slattery states, "a foil of pure nickel whose worked or rolled thickness was substantially 350 microinches." That is, Slattery clearly describes that the final uniform thickness of the nickel foil layers 12 is between 200 and 350 microinches. Thus, Slattery clearly fails to teach or suggest the feature that the nickel foil layers 12 have a maximum-to-minimum thickness ratio of 1.4 to 15 as recited in Applicants' claims 13 and 19.

Thus, Applicants respectfully submit that Slattery fails to teach or suggest a nickel-based metal layer composed of "a nickel-based metal foil" in which "no portion of

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the nickel-based metal layer being electroplated" and in which "has a maximum-to-minimum thickness ratio $T1/T2$ of 1.4 to 15" as recited in Applicants' claims 13 and 19.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 13 and 19 under 35 U.S.C. §103(a) as being unpatentable over Slattery.

Applicants have added claims 29 and 37 that recite the feature of "a brazing material layer press-bonded onto the nickel-based metal layer such that the total thickness of the core layer, the nickel-based metal layer, and the brazing material layer is reduced by a ratio of between about 30% to about 60%."

As discussed in the personal interview on October 21, 2004, this feature is clearly supported in the paragraph bridging pages 12-14 of the originally filed Specification.

The Examiner has alleged in the Office Action dated February 6, 2002 that the gold electroplate layer 28 and the solder frame type sealing ring 30 of Slattery teach the feature of "a brazing material layer" as recited in Applicants' claims 29 and 37.

First, Slattery teaches that the gold electroplate layer 28 is electroplated and that solder frame type sealing ring 30 is attached to the gold electroplate layer 28 by applying heat. That is, Slattery fails to teach or suggest that either the gold electroplate layer 28 or the solder frame type sealing ring 30 is press-bonded as recited in Applicants' claims 29 and 37. Further, Slattery clearly fails to teach or suggest that either the gold electroplate layer 28 or the solder frame type sealing ring 30 is press-bonded such that total thickness of the layers is reduced by about 30% to about 60%.

Second, the paragraph bridging pages 12-14 of the originally filed Specification teaches that that purpose of reducing the total thickness of the core layer, the nickel-based metal layer, and the brazing material layer by about 30% to about 60% is "so that development of micro-cracks in a minimum thickness portion of the Ni-based metal layer can be prevented."

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Thus, Applicants respectfully submit that Slattery fails to teach or suggest the feature of "a brazing material layer press-bonded onto the nickel-based metal layer such that the total thickness of the core layer, the nickel-based metal layer, and the brazing material layer is reduced by a ratio of between about 30% to about 60%" as recited in Applicants' claims 29 and 37.

Accordingly, Applicants respectfully submit that none of the prior art of record, applied alone or in combination, teaches or suggests the unique combination and arrangement of elements recited in claims 13, 19, 29, and 37 of the present application. Claims 14-18, 20-28, 30-36, and 38-44 depend upon claims 13, 19, 29, and 37 and are therefore allowable for at least the reasons that claims 13, 19, 29, and 37 are allowable.

In view of the foregoing amendments and remarks, Applicants respectfully submit that this application is in condition for allowance. Favorable consideration and prompt allowance are solicited.

To the extent necessary, Applicants petition the Commissioner for a ONE-month extension of time, extending to November 23, 2004, the period for response to the Office Action dated July 23, 2004.

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The Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1353.

Respectfully submitted,

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